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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,696	08/20/2001	Kjell Persson	027650-936	2255
21839	7590	03/25/2005	EXAMINER	
BURNS DOANE SWECKER & MATHIS L L P			LEO, LEONARD R	
POST OFFICE BOX 1404			ART UNIT	
ALEXANDRIA, VA 22313-1404			PAPER NUMBER	

3753

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SN

<b>Office Action Summary</b>	<b>Application No.</b> 09/856,696	<b>Applicant(s)</b> PERSSON, KJELL	
	<b>Examiner</b> Leonard R. Leo	<b>Art Unit</b> 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5 and 6 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/01, 1/02</u> . | 6) <input type="checkbox"/> Other: ____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Behringer in view of Mahoney.

Behringer discloses all the claimed limitations except pipe bends. Note Figure 4 and page 2, lines 25-30.

Mahoney discloses a heat exchanger comprising a plurality of casing tubes 2 and heat transfer tubes 3 therein; connection members 37, 38; tube plates 34 and pipe bends 35 (Figure 6) for the purpose of ease of maintenance and assembly. Note Figure 1 disclosing an end cap 7 is an obvious variant of the pipe bend.

Since Behringer and Mahoney are both from the same field of endeavor and/or analogous art, the purpose disclosed by Mahoney would have been recognized in the pertinent art of Behringer.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Behringer pipe bends for the purpose of ease of maintenance and assembly as recognized by Mahoney.

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Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Behringer in view of Mahoney as applied to claims 1 and 6 above, and further in view of SE 9703865-7 or Junkers et al.

The combined teachings of Behringer and Mahoney lack pipe bends having an elliptical cross section.

SE 9703865-7 discloses a heat exchanger comprising a plurality of flow inserts with tubes 2; the inserts are disposed within casings 4 and connected via connection member 5 and pipe bend 7 having an elliptical cross section for the purpose of minimizing space requirements.

Junkers et al discloses a heat exchanger comprising a plurality of casing tubes 2 connected via pipe bends 4 having an elliptical cross section for the purpose of minimizing space requirements.

Since Behringer and SE 9703865-7 or Junkers et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by SE 9703865-7 or Junkers et al would have been recognized in the pertinent art of Behringer.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Behringer pipe bends having an elliptical cross section for the purpose of minimizing space requirements as recognized by SE 9703865-7 or Junkers et al.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Behringer in view of Mahoney as applied to claims 1 and 6 above, and further in view of Hiller et al.

The combined teachings of Behringer and Mahoney lack a connection member being a straight tube section with an O-ring.

Hiller et al discloses a heat exchanger comprising a plurality of casing tubes 12 and heat transfer tube 10 therein; tube plates 21; pipe bends 11; and straight tube section 13 with an O-ring 19 for the purpose of minimizing space requirements.

Since Behringer and Hiller et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Hiller et al would have been recognized in the pertinent art of Behringer.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Behringer pipe bends having an elliptical cross section for the purpose of minimizing space requirements as recognized by Hiller et al.

#### ***Allowable Subject Matter***

Claims 3-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

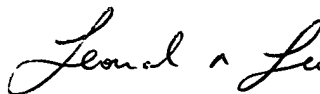
#### ***Conclusion***

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on (571) 272-4930. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

  
LEONARD R. LEO  
PRIMARY EXAMINER  
ART UNIT 3753

March 21, 2005